

Exhibit H



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June 3, 2013

TO: PARTIES INTERESTED IN AUTOMATIC FOUNDATION FLOOD VENTS

SUBJECT: Proposed Revisions to the Acceptance Criteria for Automatic Foundation Flood Vents, Subject AC308-0613-R1 (WM/MO)

Dear Colleague:

We are seeking your comments on proposed revisions to the subject acceptance criteria, as presented in the enclosed draft. The revisions, which are being posted on the ICC-ES web site for 30 days of public comment, may be summarized as follows:

1. Revise the title of the acceptance criteria by adding "Mechanically Operated" just prior to "Automatic Foundation Flood Vents." The reason for this change is to make it clear that the acceptance criteria applies to foundation flood vents with moving parts that open and close. The code has the necessary provisions to address foundation flood vents that are permanently open but does not address foundation flood vents that open and close based on exposure to flood waters.
2. Add to the criteria the 2012 and 2009 editions of the *International Building Code*[®] and *International Residential Code*[®].
3. Add ASCE 24-05 to the referenced standards (in Section 1.3). ASCE 24 is referenced within the body of the acceptance criteria, but previously had been left out of the list of referenced standards.
4. Add definitions for "Mechanically Operated Automatic Foundation Flood Vents" and "Static Automatic Foundation Flood Vents" to the definitions (Section 1.4).
5. Revise the size requirements for the test apparatus (Section 3.2.1). When the acceptance criteria was developed, it was developed for a specific size of a specific foundation flood vent. The revised requirements are intended to allow for testing of any size foundation flood vent.
6. Delete the specific volumes of water specified in the testing protocol (Sections 3.2.2.1, 3.2.2.3, 3.2.3.1 and 3.2.3.3). These values are for one size of foundation flood vent only and need to be removed to allow for testing of other size foundation flood vents. We believe the minimum rise rate of the water level will dictate the volume of water required.

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7. Add requirements (Section 3.3) to address weathering of flood vents made of plastic. This includes adding the ASTM standards referenced in Section 3.3 to the list of referenced standards in Section 1.3.
8. Section R408 of the *International Residential Code*® requires openings into under-floor spaces to be covered with mesh to prevent rodents and vermin from entering. In addition to the proposed changes noted above, we are seeking industry input as to how the Mechanically Operated Automatic Foundation Flood Vents might be evaluated to resist entry by rodents and vermin, such as squirrels or raccoons.

With the possible exception of item 8, the revisions proposed in the attached criteria draft will not affect any current evaluation reports or require submittal of new test data. We currently have one evaluation report that has been evaluated in accordance with AC364. Depending on how item 8 is handled, the one report holder under AC364 may need to submit additional data to address this issue.

If they are of interest, please review the proposed revisions and send us your comments at the earliest opportunity. At the end of the 30-day comment period, we will post on our web site the correspondence we have received. We hope your comments will help us prepare a final set of revisions for the Evaluation Committee to consider at a future hearing.

To submit your comments, please use the form on the web site and attach any letters or other materials. If you would like an explanation of the "alternate criteria process," under which we are soliciting comments, this too is available on the ICC-ES web site..

Please do not try to communicate directly with any Evaluation Committee member about a criteria under consideration, as committee members cannot accept such communications.

Thank you for your interest and your contributions. If you have any questions, please contact me at (800) 423-6587, extension 5686, or Michael O'Reardon, Regional Engineering Manager, at extension 5685. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,



Woods McRoy, P.E.
Senior Staff Engineer

WFM/raf

Encl.

cc: Evaluation Committee



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PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR MECHANICALLY OPERATED AUTOMATIC FOUNDATION FLOOD VENTS

AC364

Proposed June 2013

Previously approved October 2007 and October 2006

PREFACE

Evaluation reports issued by ICC Evaluation Service, LLC (ICC-ES), are based upon performance features of the International family of codes. (Some reports may also reference older code families such as the BOCA National Codes, the Standard Codes, and the Uniform Codes.) Section 104.11 of the *International Building Code*³ reads as follows:

The provisions of this code are not intended to prevent the installation of any materials or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

ICC-ES may consider alternate criteria for report approval, provided the report applicant submits data demonstrating that the alternate criteria are at least equivalent to the criteria set forth in this document, and otherwise demonstrate compliance with the performance features of the codes. ICC-ES retains the right to refuse to issue or renew any evaluation report, if the applicable product, material, or method of construction is such that either unusual care with its installation or use must be exercised for satisfactory performance, or if malfunctioning is apt to cause injury or unreasonable damage.

NOTE: The Preface for ICC-ES acceptance criteria was revised in July 2011 to reflect changes in policy.

Acceptance criteria are developed for use solely by ICC-ES for purposes of issuing ICC-ES evaluation reports.

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR MECHANICALLY OPERATED AUTOMATIC FOUNDATION FLOOD VENTS (AC364)

1.0 INTRODUCTION

1.1 Purpose: The purpose of this acceptance criteria is to establish requirements for mechanically operated automatic foundation flood vents (MAFFVs) to be recognized in an ICC Evaluation Service, LLC (ICC-ES), evaluation report under the 2012, 2009 and 2006 International Building Code® (IBC) and the 2012, 2009 and 2006 International Residential Code® (IRC). Bases of recognition are IBC Sections 104.11, 1203.3, 1612, and G103.1; and IRC Sections R104.11 and R322.2.2 (2012 and 2009 IRC) or R324.2.2 (2006 IRC), as applicable.

The reason for the development of this criteria is that the IBC and IRC contain requirements for flood-resistant construction, but do not provide guidance on the methods by which MAFFVs can be evaluated.

1.2 Scope: This acceptance criteria is intended to establish testing criteria for MAFFVs serving as engineered openings, as noted in ASCE/SEI 24, in enclosures below the design flood elevation. MAFFVs are designed to remain in the closed position when not subjected to flood conditions and can be used to provide under-floor ventilation. When subjected to rising flood waters on either side, the MAFFV is designed to open and allow a path for equalization of the water level and pressure.

1.3 Codes and Referenced Standards:

1.3.1 2012, 2009 and 2006 International Building Code® (IBC), International Code Council.

1.3.2 2012, 2009 and 2006 International Residential Code® (IRC), International Code Council.

1.3.3 ASCE 24-05, Flood-Resistant Design and Construction, American Society of Civil Engineers (ASCE).

1.3.4 ASTM D256-10, Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics, ASTM International.

1.3.5 ASTM D1435-05, Standard Practice for Outdoor Weathering of Plastics, ASTM International.

1.3.6 ASTM D1499-05, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Plastics, ASTM International.

1.3.7 ASTM D2565-99(2008), Standard Practice for Xenon Arc Exposure of Plastics Intended for Outdoor Applications, ASTM International.

1.3.8 ASTM D4329-05, Standard Practice for Fluorescent UV Exposure of Plastics, ASTM International.

1.3.9 ASTM D4364-05, Standard Practice for Performing Accelerated Outdoor Weathering Tests of Plastics Using Concentrated Sunlight, ASTM International.

1.4 Definitions:

1.4.1 Automatic Foundation Flood Vents (AFFVs): AFFVs are engineered openings, as noted in Section 2.6 of ASCE/SEI 24, intended for installation in walls below the design flood elevation, to provide for the automatic entry and exit of floodwaters during design flood conditions. AFFVs may be either mechanically operated AFFVs or static AFFVs.

1.4.2 Mechanically Operated Automatic Foundation Flood Vents (MAFFVs): MAFFVs are AFFVs with an opening mechanism that is actuated when subjected to flood waters.

1.4.3 Static Automatic Foundation Flood Vents (SAFFVs): SAFFVs are permanently open AFFVs with no moving parts.

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description: Complete information concerning material specifications, thickness, size and the manufacturing process.

2.1.2 Installation Instructions: Installation details and limitations, field cutting, fastening methods, joint treatments, and face treatments.

2.1.3 Packaging and Identification: A description of the method of packaging and field identification of the MAFFV. Identification provisions shall include the evaluation report number.

2.1.4 Field Preparation: A description of the methods involved in any allowed field modifications and applications.

2.2 Testing Laboratories: Testing laboratories shall comply with Section 2.0 of the ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES Rules of Procedure for Evaluation Reports.

2.3 Test Reports: Test reports shall comply with AC85.

2.4 Product Sampling: Sampling of the MAFFV for tests under this criteria shall comply with Section 3.2 of AC85.

3.0 TEST METHODS AND PERFORMANCE REQUIREMENTS

3.1 General:

3.1.1 The material from which the MAFFV is formed shall be corrosion-resistant or shall be protected from corrosion material, such as stainless steel.

3.1.2 Where used to provide under-floor ventilation, the net free area of the MAFFV shall be calculated by a registered design professional. The net free area for any airflow pathway (airway) shall be the gross cross-sectional area less the area of any physical obstructions at the smallest or most critical cross-sectional area in the airway. The net free area shall be determined for each airway in the installed device. The NFVA net free ventilation area for the device shall be the sum of the net free areas determined for all airways in the installed device. Opening size and materials shall be documented as conforming with requirements contained in IBC Section 1203.3.1 and IRC Section 408.2.

3.1.3 Openings in the MAFFV shall be not less than 3 inches (76.2 mm) in any direction in the plane of the wall.

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3.1.4 The minimum total net area of the required openings in non-breakaway walls shall be calculated by a registered design professional in accordance with Section 2.6.2.2 of ASCE 24.

3.2 Performance Testing:

3.2.1 General: The largest size and smallest size of each model shall be tested.

3.2.2 Test Apparatus: Testing shall be conducted in a tank with an interior length of 134 inches (3327.4 mm), width of 48 inches (1219.2 mm), and depth of 40 inches (1016 mm) with a minimum interior length that provides for 48 inches (1219 mm) on both sides of the wall containing the MAFFV (test wall) and a minimum of 16 inches (406 mm) beyond the protrusion of any vent part during operation; a minimum width of 48 inches (1219 mm) that provides for 8 inches (203 mm) of intact wall beyond the edge of the vent hole side edge; and a minimum depth of 40 inches (1016 mm) that provides for 8 inches (203 mm) below the vent hole bottom edge and 12 inches (305 mm) above the vent hole top edge. The tank bottom shall be horizontal and level within 0.25 inch per foot (21 mm per meter) with the zero reference point located within 2 inches (51 mm) of the test wall. The tank shall be sealed to be water-resistant and shall be provided with a water inlet and drain on for each of the long sides compartment formed on each side of the test wall. The drains and inlets shall be sized to allow the flow rates necessary to produce the minimum elevation water level change rates specified for each test below. A water-resistant test wall shall be constructed in the manner for which recognition is sought. The test wall shall be plumb. The test wall shall be installed halfway along and perpendicular to the long wall of the tank to divide the tank into two compartments of approximately equal volume, to be designated "exterior" and "interior." The MAFFV shall be installed in the center test wall in accordance with the manufacturer's published installation instructions, with the bottom edge of the MAFFV located 8 inches (203.2 mm) above the floor in the center of the test wall.

3.2.3 Flood and Release Test, Interior to Exterior:

3.2.3.1 Minimum Rate of Rise: Water is introduced into the tank's interior compartment at two rates, of 50 and 300 gpm (3.15 and 18.93 L/s). The rate of rise in the interior compartment shall be recorded for both flow rates.

Condition of Acceptance: The condition of acceptance is that the minimum rise rate shall exceed 5 feet (1524 mm) per hour.

3.2.3.2 Actuation Level: Measuring from the bottom of the vent opening, the level of water required to open the MAFFV shall be recorded at both flow rates.

Condition of Acceptance: The condition of acceptance is that the level at which actuation of the MAFFV occurs shall not exceed 1 foot (304.8 mm).

3.2.3.3 Submerged Flow Test Interior to Exterior: This test is designed to show that the vent will stay unlatched during a flood that totally covers the entire vent door. The vent is held closed mechanically and the interior tank filled to 1 foot (305 mm) above the vent. The exterior side is filled to the top of the vent. Water is introduced on the interior of the vent at a rate of 300

gallons per minute such that the minimum rise shall exceed 5 feet (1524 mm) per hour while simultaneously allowing the vent to open. If the water reaches equilibrium at a level below the top of the vent, water will continue to be added at a rate of 300 gallons per minute such that the minimum rise rate shall exceed 5 feet (1524 mm) per hour until the water level is 1 foot (305 mm) above the vent on both sides. The test will be stopped when the water is 1 foot (305 mm) above the vent on both sides.

Condition of Acceptance: Criteria for passing is that at no time can there be a difference of more than 1 foot (305 mm) between the water heights on the exterior and interior sides, measured from the bottom of the vent opening, and the vent must remain unlatched while submerged.

3.2.4 Flood and Release Test, Exterior to Interior:

3.2.4.1 Minimum Rate of Rise: Water shall be introduced into the tank's exterior compartment at two rates, of 50 and 300 gpm (3.15 and 18.93 L/s). The rate of rise in the exterior compartment is shall be recorded for both flow rates.

Condition of Acceptance: The condition of acceptance is that the minimum rise rate must exceed 5 feet (1524 mm) per hour.

3.2.4.2 Actuation Level: Measuring from the bottom of the vent opening, the level of water required to open the MAFFV is recorded at both flow rates.

Condition of Acceptance: The condition of acceptance shall be that the level at which actuation of the MAFFV occurs must not exceed 1 foot (304.8 mm).

3.2.4.3 Submerged Flow Test Exterior to Interior: This test is designed to show that the vent will stay unlatched during a flood that totally covers the entire vent door. The vent is held closed mechanically and the exterior tank filled to 1 foot (305 mm) above the vent. The interior side is filled to the top of the vent. Water is introduced on the exterior of the vent at a rate of 300 gallons per minute such that the minimum rise rate shall exceed 5 feet (1524 mm) per hour while simultaneously allowing the vent to open. If the water reaches equilibrium at a level below the top of the vent, water will continue to be added at a rate of 300 gallons per minute such that the minimum rise rate shall exceed 5 feet (1524 mm) per hour until the water level is 1 foot (305 mm) above the vent on both sides. The test will be stopped when the water is 1 foot (305 mm) above the vent on both sides.

Condition of Acceptance: Criteria for passing is that at no time can there be a difference of more than 1 foot (305 mm) between the water heights level on the exterior and interior sides, measured from the bottom of the vent opening, and the vent must remain unlatched while submerged.

3.2.5 Flood Recession Test, Exterior to Interior: Both the interior and exterior compartments shall be filled until the level is at least 12 inches (304.8 mm) above the top of the MAFFV. The interior side shall then be drained, and the rate of falling water shall be recorded and verified to exceed 5 feet (1524 mm) per hour. The differential height level of the water shall be monitored until no more water is flowing out of through the MAFFV.

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Condition of Acceptance: The conditions of acceptance are that the water level measured from the bottom of the vent opening shall not exceed a 1-foot difference between the two compartments, and that the MAFFV shall remain unlatched while submerged.

3.2.6 Flood Recession Test, Interior to Exterior: Both the interior and exterior compartments shall be filled until the level is at least 12 inches (304.8 mm) above the top of the MAFFV. The exterior side shall then be drained, and the rate of falling water shall be recorded and verified to exceed 5 feet (1524 mm) per hour. The differential height level of the water shall be monitored until no more water is flowing out of through the MAFFV.

Condition of Acceptance: The conditions of acceptance are that the water level measured from the bottom of the vent opening shall not exceed a 1-foot difference between the two compartments, and that the MAFFV shall remain unlatched while submerged.

3.2.7 Debris Test, Interior: A Debris comprised of a minimum of 216 cubic inches (3542 mL) of dried leaves, 216 cubic inches (3542 mL) of grass clippings, and fifteen 3-inch-diameter (76.2 mm) balls shall be added to the interior compartment. Water shall be introduced to the interior compartment at a rate of 300 gpm (18.9 L/s) such that the minimum rise rate exceeds 5 feet (1524 mm) per hour.

Condition of Acceptance: The conditions of acceptance are that the MAFFV shall unlatch and remain open operate and allow the debris to pass to the exterior chamber, and the water level measured from the bottom of the vent opening shall not exceed a 1-foot (305 mm) difference between the two compartments. This test may be concurrent with the Flood and Release Test or the Flood Recession Test.

3.2.8 Debris Test, Exterior: A Debris comprised of a minimum of 216 cubic inches (3542 mL) of dried leaves, 216 cubic inches (3542 mL) of grass clippings, and fifteen 3-inch-diameter (76.2 mm) balls shall be added to the exterior compartment. Water shall be introduced to the exterior compartment at a rate of 300 gpm (18.9 L/s) such that the minimum rise rate exceeds 5 feet (1524 mm) per hour.

Condition of Acceptance: The conditions of acceptance are that the AFFV shall unlatch and remain open open operate and allow the debris to pass to the interior chamber, and the water level measured from the bottom of the vent opening shall not exceed a 1-foot (305 mm) difference between the two compartments. This test may be concurrent with the Flood and Release Test or Flood Recession Test.

3.3 Weathering Tests: Weathering tests in accordance with this section are required for all flood vents made of plastic.

3.3.1 Two 3-inch-by-9-inch (152 mm by 229 mm) samples are to be excised from the materials from which the AFFV is to be constructed. One is to be used as a control sample, the other is to undergo the accelerated weathering test described in Section 3.3.2.

3.3.2 The sample is subjected to one of the following weathering conditions:

3.3.2.1 Accelerated weathering tests for 2,000 hours in accordance with ASTM D1499, using Type D or DH twin enclosed carbon arcs.

3.3.2.2 ASTM D2565. The exposure apparatus shall be 6,000 or 6,500 watts, Type B or BH as specified in ASTM G26. Exposure shall be for 2,900 hours, with 120-minute cycles consisting of 102 minutes of light-only exposure and 18 minutes of water spray and light exposure.

3.3.2.3 Exposure to 36,805 Langley (1539.9 MJ/m²) of ultraviolet (UV) irradiance in accordance with Procedure B of ASTM D4364, using Spray Cycle 1.

3.3.2.4 Outdoor weathering per ASTM D1435 with exposure for five years in a hot humid, a hot arid and a northern industrial climate with a southern exposure at a 45-degree angle.

3.3.2.5 Accelerated weathering tests in accordance with ASTM D4329. Exposure shall be for 2,000 hours, with 12-hour cycles consisting of eight hours UV at 158°F (70°C) followed by four hours condensation at 104°F (40°C).

3.3.3 At the conclusion of the accelerated weathering test, three 1/2-inch-by-5-inch (12.7 mm by 127 mm) specimens are cut from the control and weathered samples and are subjected to the impact test described in ASTM D256 Method B [Single Beam (Charpy-type)].

3.3.4 Condition of Acceptance: The loss of impact strength after weathering shall not be greater than 25 percent.

4.0 QUALITY CONTROL

4.1 Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted.

4.2 Third-party follow-up inspections are not required under this acceptance criteria.

4.1 Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted for each facility manufacturing or labeling products that are to be recognized in the ICC-ES evaluation report.

4.2 A qualifying inspection shall be conducted at each manufacturing facility in accordance with the requirements of the ICC-ES Acceptance Criteria for Inspections and Inspection Agencies (AC304).

4.3 An annual inspection shall be conducted at each manufacturing facility in accordance with AC304.

5.0 EVALUATION REPORT RECOGNITION

5.1 When the MAFFV is used to provide under-floor ventilation, the evaluation report shall note the minimum net free ventilation area provided by each MAFFV. If there is no such use, the evaluation report shall contain a condition of use indicating the MAFFV has not been evaluated for use as an opening for under-floor ventilation.

5.2 The report shall include a condition of use stating that MAFFVs shall not be used in the place of "breakaway walls" in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.

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5.3 The evaluation report shall state the maximum square footage of wall area recognized for each MAFFV. The evaluation report shall contain a condition of use requiring a minimum of two openings on different sides of each enclosed area below the design flood elevation. ■